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*By*

*AK*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/596,492 06/19/00 DAVIS

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EXAMINER

MMC2/0820

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ART UNIT NO. PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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**Office Action Summary**

Application No.

09/596,492

Applicant(s)

DAVIS, DANIEL

Examiner

Hoang V Nguyen

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Toland et al (US 6,268,835).

With respect to claim 1, Toland (Figures 11-14) discloses a parabolic reflector phased array antenna comprising a reflector support structure 1418, a plurality of parabolic reflector cells 1200 mounted side by side in an array in an interior portion of the support structure, each reflector cell includes a parabolic RF signal reflector and an array of RF feed elements 1206, each reflector having a flexible reflecting surface 1204 and a plurality of elongated edges defining a geometric shape, and including respective corner portions (not numbered) at the intersection of pairs of edges, respective rigid support members 1208 located at the corner portions of the reflector for stiffening the reflector and the elongated edges, and also for providing a support for the array of feed elements, a set of flexible support members (not numbered) extending between the rigid support members of each reflector cell and the respective array of feed elements 1206 for positioning the array above the RF signal reflector, and a mechanism 1210 located beneath each of the RF signal reflectors for pulling the respective flexible reflecting surface down to a substantially parabolic shape.

Art Unit: 2821

With respect to claim 2, as applied to claim 1, Figure 14 of Toland shows that the reflector support structure 1418 comprises a toroidal support structure.

With respect to claim 3, as applied to claim 1, Figure 13 of Toland shows that the plurality of parabolic reflector cells are comprised of super element reflector cells arranged in a planar array.

With respect to claim 4, as applied to claim 1, Figure 12 of Toland shows additional support member (not numbered) located at the edges of the reflecting surface to prevent stretching of the reflector along the edges.

With respect to claim 5, as applied to claim 1, Figure 2 of Toland shows that the rigid support members 1208 comprise a plurality of elongated posts.

With respect to claim 6, as applied to claim 1, Figure 13 of Toland shows that the set of flexible support members comprises wire support members.

With respect to claim 7, as applied to claim 1, Figure 12 of Toland shows that the mechanism 1210 for pulling the reflecting surface down comprises a backup structure including a set of wires and tension cables.

With respect to claim 8, as applied to claim 1, Figure 12 of Toland shows that the reflecting surface 1204 comprises a reflector mesh.

With respect to claim 9, as applied to claim 1, Figure 12 of Toland shows that the array of feed elements 1206 comprises a planar array of feed elements.

With respect to claim 10, as applied to claim 9, Toland (col 4, lines 44-60) teaches that the array of feed elements in each reflector cell is selectively activated in groups of feed elements

Art Unit: 2821

and wherein the groups are varied in position relative to the focal point of the array to steer a transmitted and/or received beam generated by one or more of the reflector cells.

With respect to claims 11-16, as applied to claim 10, Toland (abstract, col 6 line 15 through col 7 line 62) teaches that the array can be steered and feed elements can be randomly selected in order to relieve a grating lobe problem.

With respect to claims 17-25, the antenna structure of Toland, as discussed in claims 1-16, would enable the method of steering a transmitted and/or received beam of a phased array antenna system comprising the steps as claimed.

### *Correspondence*

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang V Nguyen whose telephone number is (703) 306-3444. The examiner can normally be reached on Mondays-Fridays from 9:00 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

4. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Hoang V Nguyen  
Art Unit 2821  
August 16, 2001